4.2.2 Title 22 Metals and Hexavalent Chromium Results

Title 22 metals and hexavalent chromium concentrations in groundwater, as measured during this sampling event, are summarized on Table 6. Figure 15 shows the hexavalent chromium concentrations in groundwater measured during this event. Review of hexavalent chromium concentrations in groundwater sampled during the 1999 and 2000 sampling events suggest that concentrations have remained relatively constant at the two locations with coincident monitoring (BL-2 and BL-3). Hexavalent chromium concentrations are generally present across the Site at concentrations less than 0.020 mg/L.

Concentrations of lead, mercury, molybdenum, nickel, vanadium, and zinc are found at concentrations above the detection limit predominately in groundwater from the southern and eastern portion of the Site. These data are presented in Table 6.

4.2.3 Bioattenuation Parameters

During this monitoring and sampling event, the following bioattenuation sampling was conducted:

- Field monitoring for DO, ORP, temperature, conductivity, and pH.
- Laboratory sampling for Total Alkalinity by EPA Method 2320B; Chloride, Nitrate, Nitrite, and Sulfate by EPA Method 300.0A; TOC by EPA Method 415.1; Ethane, Ethene, and Methane by EPA Method SOP-175; Ferrous Iron by EPA Method 3500-FE D; Dissolved Metals and Cations by EPA Method 6010B; and Mercury by EPA Method 7470A.

4.2.3.1 Field Bioattenuation Parameters

A summary of current field bioattenuation parameters is included on Table 7. DO and ORP distribution in shallow groundwater are shown on Figure 16 and Figure 17, respectively. The distribution of DO and ORP suggest evidence of intrinsic remediation in the potential source area near former Buildings 1, 2, and 36, and along the southern Site boundary (Parcel D). DO has been depleted within the areas of the TCE- and 1,1-DCE-impacted groundwater. ORP is negative within the same areas suggesting that there are less aerobic conditions present.

4.2.3.2 Laboratory Bioattenuation Parameters

Laboratory analyses were conducted on groundwater samples collected at 15 locations across the Site to provide a basis for evaluation of the occurrence of natural attenuation. Analyses included determination of ferrous iron, chloride, nitrate and nitrite, sulfate, total alkalinity, TOC, ethane, ethane, methane, and selected cation concentrations. A listing of the concentrations of these parameters in the groundwater are found on Tables 7 and 8.